

### FEATURES

Operates from a +5V/-5V Supply  
On-Board Reference  
Direct Hook-Up to Printer Port of PC  
PC Software for Control of ADV7177 modes

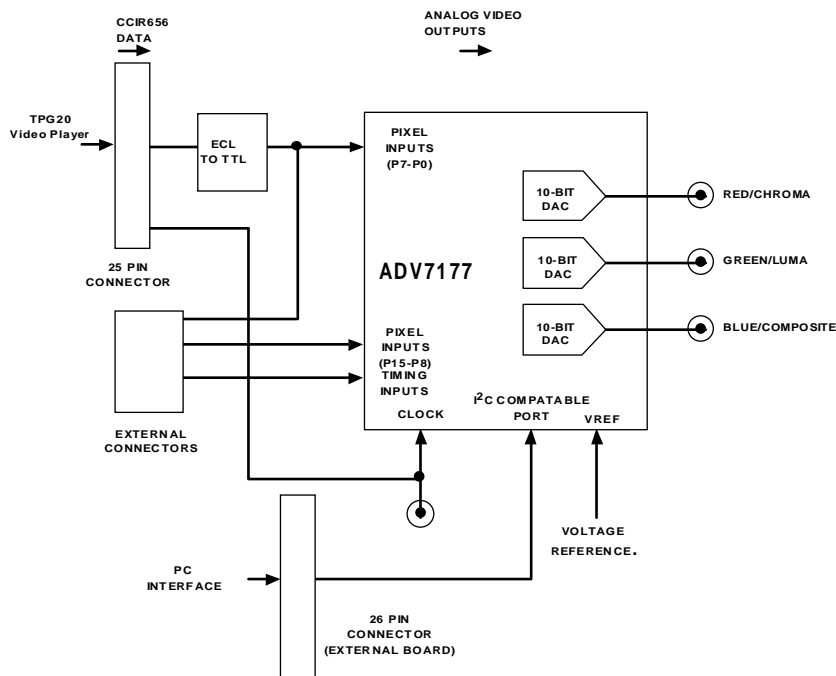
### INTRODUCTION

This Application Note describes the evaluation board for the ADV7177. The ADV7177 is a Digital Video Encoder. The device accepts CCIR656 data and converts to Composite, Y/C, RGB or YUV video signals in PAL or NTSC format. Full data on the ADV7177 is available in the ADV7177 data sheet available from Analog Devices and should be consulted in conjunction with this Application Note when using the Evaluation Board.

The ADV7177 evaluation board accepts a CCR656 data stream from a source such as a Tektronix TPG20 or a Panasonic D5 VTR. The ADV7177 converts this data stream to a video signal.

Because the ADV7177 is a flexible and sophisticated video processor its internal settings may require changes according to the application the user chooses. By default or by pressing the reset button on the evaluation board, the internal settings of the ADV7177 will set up the following modes:

NTSC Format.  
CCIR656 Slave Timing Mode.  
Composite Output.  
7.5 IRE Pedestal Enabled.  
All 4 DACs powered up.  
Interlaced Mode Operation.  
Low Pass Filter.  
Internal Color Bar Disabled.  
Closed Captioning Disabled.



## Evaluation Software

In order to give the user complete control over the ADV7177, a computer program has been produced to allow the user to set up the device in the way that best suits the required application.

### Setting Up:

This software is in the form of a windows executable file called 7177.EXE. To set this software up on your computer just run the program SETUP\_75.EXE. When prompted for confirmation of various setup procedures it is recommended that you accept the default settings.

When setup is complete a folder called ADV7177, inside this folder will be a file called ADV7177.

### Running the Software:

Everytime you run this program you will be presented with a selection of three different types of parallel ports the default is the most common type of setup, if this does not work then trying the other options should work.

When you have selected the correct parallel port the main menu will be displayed.

You can now set up your ADV7177.

### Initialisation:

When the evaluation software initialises (assuming the evaluation system is correctly set up), the default settings of the ADV7177 are changed to:

All DACS powered down (NO OUTPUT).  
CCIR656 mode  
NTSC Format.  
Composite Output.  
7.5 IRE Pedestal Enabled.  
Interlaced Mode Operation.  
Low Pass Filter.  
Internal Color Bar Disabled.  
Closed Captioning Disabled.

### Dynamically Linked Menu System:

All menus in this software are interactive, so when (for example) you change the values of a register in the registers menu all switch settings relevant to that register change will automatically change to the correct state.

### IMPORTANT THINGS TO KNOW:

Update Registers;

When you change the configuration of the ADV7177 with this version of software the settings will not take effect until you select the "Update Registers" button.

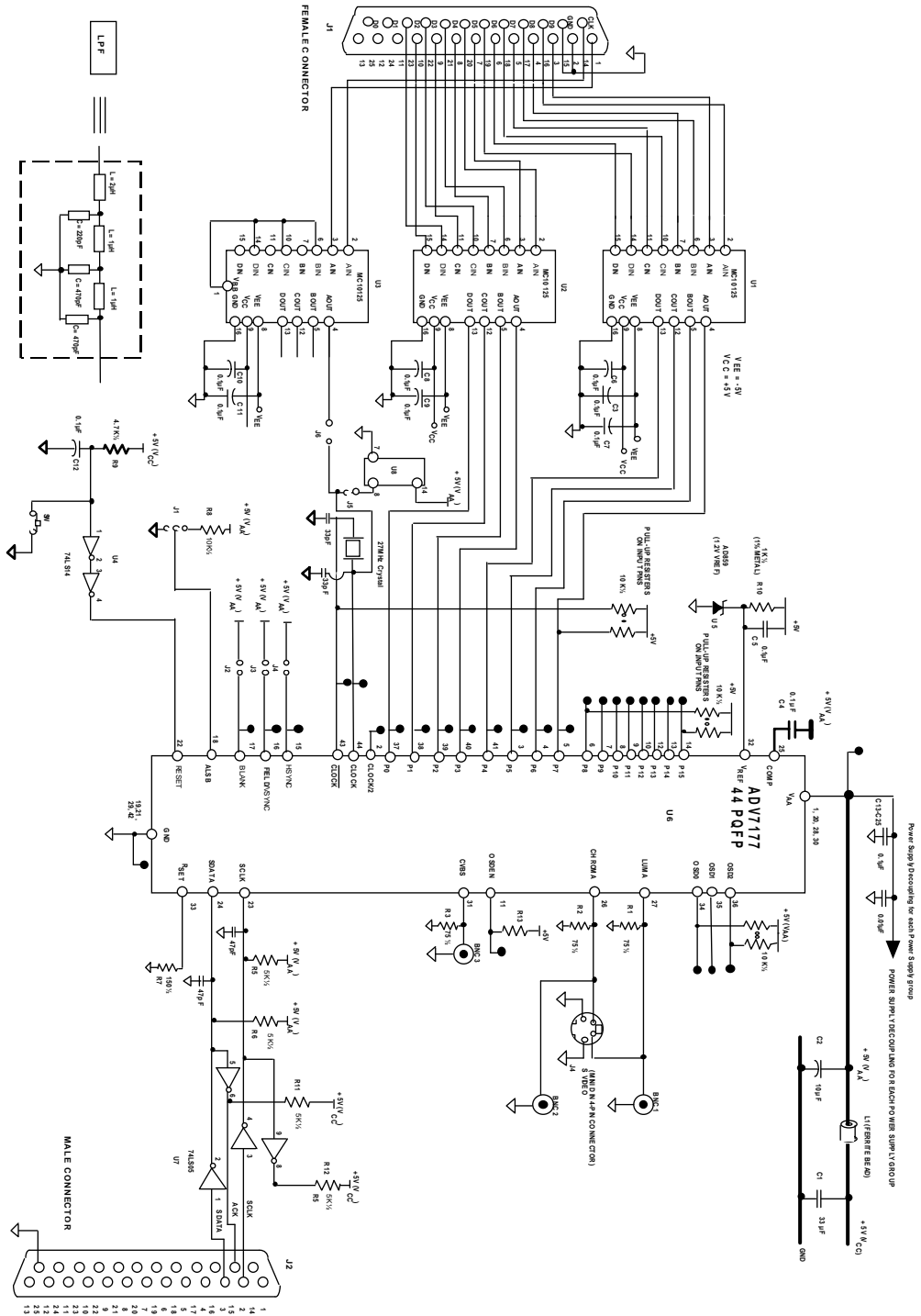
Validity of Settings;

No settings implied by the software are necessarily concurrent with the settings of the ADV7177. i.e. this version of the software does not read the registers it merely writes the information associated with the current software settings to the MPU port, if there is a bad connection to the MPU port the ADV7177 may not be set up correctly and although there is an visible "Error" generated by the software it is sometimes not possible to detect all possible errors caused by bad connections e.t.c.. In a later version of this software register reading will be utilised.

I2C Compatible Programming;

This version of software does not take into account the ability of the ADV7177 to accept continuous streams of data. Instead, for every register this software writes to, it completely re-initiates a start sequence (see the ADV7177 Data sheet for information on different ways registers should be written to). This means that more information has to be written to the MPU port extending the time required to program the ADV7177.

# Eval-ADV7177



## Jumpers and Other board Configurations.

Because there are so many possible ways to set up the ADV7177, a selection of jumper settings have been included on this evaluation board. Settings are as follows:

- Jumper (1); Ties ALSB either High or Low.
- Jumper (2); Sets Blank either floating (so this pin can be properly assessed at the screw terminal block) or High. (Connect High if Blank is not used).
- Jumper (3); Sets Field/VSync either floating (so this pin can be properly assessed at the screw terminal block). (Connect High if CCIR555 mode is required).
- Jumper (4); Sets HSync either floating (so this pin can be properly assessed at the screw terminal block). (Connect High if CCIR555 mode is required).
- Jumper (5); Selects the oscillator as the external clock for the ADV7177 (Do not connect J5 when this is connected).
- Jumper (5); Selects an external clock for the external clock for the ADV7177 (Do not connect J5 when this is connected).

**NOTE :** If any ADV7177 input pins are not used they should be tied to ground.